

<b>Notice of Allowability</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	09/992,606	HIRASAKA, HISATO	
	<b>Examiner</b>	<b>Art Unit</b>	
	KHAI TRAN	2637	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--**

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to the amendment filed 6/20/2005.
2. ☒ The allowed claim(s) is/are 1,2,5-10 and 13-31.
3. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) ☒ All    b) ☐ Some\*    c) ☐ None    of the:
    1. ☒ Certified copies of the priority documents have been received.
    2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.  
**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
  5. ☐ CORRECTED DRAWINGS ( as "replacement sheets") must be submitted.
    - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review ( PTO-948) attached
      - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
    - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

- |   |  |
|---|--|
| 1. <input type="checkbox"/> Notice of References Cited (PTO-892)  | 5. <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)            |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                | 6. <input type="checkbox"/> Interview Summary (PTO-413),<br>Paper No./Mail Date _____. |
| 3. <input type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB/08),<br>Paper No./Mail Date _____ | 7. <input checked="" type="checkbox"/> Examiner's Amendment/Comment                    |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit<br>of Biological Material          | 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance   |
|   | 9. <input type="checkbox"/> Other _____.   |

### ***EXAMINER'S AMENDMENT***

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Jay H. Maioli (Reg. 27,213) on 8/30/2005.

2. The application has been amended as follows:

Claims 11, and 12 are cancelled.

Claim 10 has been rephrased as:

-- *Claim 10. A signal-processing circuit, comprising:*

*an analog-to-digital converter for sampling a playback signal to convert said playback signal into a digital signal and for outputting said digital signal; and*

*a digital phase-locked loop circuit for receiving said digital signal from said analog-to-digital converter,*

*wherein said digital signal output by said analog-to-digital converter is supplied to said digital phase-locked loop circuit to fetch a detection-point voltage;*

*an equalization circuit provided between said analog-to-digital converter and said phase-locked loop circuit,*

*wherein said equalization circuit includes a digital transversal filter.*

*an interpolation circuit provided between said equalization circuit and said digital phase-locked loop circuit,*

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*wherein said interpolation circuit is adapted to interpolate separate pieces of sampling data with period approximately equal to a channel-clock period. --.*

Regarding claim 13, line 2, the term "claim 12" has been changed to --claim 10--.

Regarding claim 14, line 2, the term "claim 12" has been changed to --claim 10--.

Regarding claim 16, line 2, the term "claim 12" has been changed to --claim 10--.

Regarding claim 18, line 2, the term "claim 12" has been changed to --claim 10--.

Regarding claim 19, line 2, the term "claim 12" has been changed to --claim 10--.

Regarding claim 20, line 2, the term "claim 12" has been changed to --claim 10--.

Regarding claim 21, line 2, the term "claim 12" has been changed to --claim 10--.

Regarding claim 22, line 2, the term "claim 11" has been changed to --claim 10--.



**KHAI TRAN**  
**PRIMARY EXAMINER**

### ***REASONS FOR ALLOWANCE***

1. The amendment filed 6/20/2005 has been entered. Claims 3-4, 11-12 have been cancelled. Claims 1-2, 5-10, 13-31 are pending in this Office action.

#### ***Allowable Subject Matter***

2. Claims 1-2, 5-10, 13-31 are allowed.

3. The following is an examiner's statement of reasons for allowance: none of the prior discloses or suggests a signal processing circuit comprising: sampling frequency of the first equalization circuit is made approximately equal to a channel clock frequency, a subsequent transfer characteristic of the equalization circuit is made equal to a product of a present transfer characteristic of the equalization circuit and present transfer characteristic of the second equalization circuit; and a subsequent transfer characteristic of the second equalization circuit is flattened; the digital signal output of the analog to digital converter is supplied to the digital phase locked loop circuit to fetch a detection voltage; obtaining a tap coefficient B by subjecting said subsequent value of said tap coefficient A to  $SI/f_c$ -times interpolation; and setting said tap coefficient B to a subsequent tap coefficient of said first equalization circuit.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

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***Conclusion***

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to KHAI TRAN whose telephone number is (571) 272-3019. The examiner can normally be reached on 7:00AM - 4:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, JAY PATEL can be reached on (571) 272-2988. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



KHAI TRAN  
Primary Examiner  
Art Unit 2637

***KT***  
***August 30, 2005***